

Translation

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PATENT COOPERATION TREATY PCT/FR2003/003359

PCT 10/535418

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference CLI 99/01C	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/FR2003/003359	International filing date (day/month/year) 13 novembre 2003 (13.11.2003)	Priority date (day/month/year) 19 novembre 2002 (19.11.2002)
International Patent Classification (IPC) or national classification and IPC C21D 1/19, C22C 38/14		
Applicant INDUSTEEL CREUSOT		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 10 mai 2004 (10.05.2004)	Date of completion of this report 06 August 2004 (06.08.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/FR2003/003359

## I. Basis of the report

### 1. With regard to the elements of the international application:\*

- ☒ the international application as originally filed
- ☒ the description:  
 pages \_\_\_\_\_ 1-10 \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the claims:  
 pages \_\_\_\_\_ 1-20 \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, as amended (together with any statement under Article 19  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the drawings:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

### 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

### 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

### 4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

### 5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	1-20	YES
	Claims		NO
Inventive step (IS)	Claims	1-20	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims		NO

### 2. Citations and explanations

This report makes reference to the following documents:

D1: US 5393358 A

D2: EP 0527276 A

The invention proposes a process that uses steel having a defined composition and in which the hot-shaped or heated workpiece is subjected to an annealing thermal treatment in particular temperature and cooling speed conditions in order to produce steel workpieces, for example steel plates 2 to 150 mm thick, that are abrasion-resistant and can be welded and folded. The thus produced workpiece has a martensitic microstructure that contains precipitated carbides, in particular titanium carbides.

This type of process and abrasion-resistant workpieces are known from documents D1 and d2.

However, none of those documents describes or suggests in an obvious manner the combination of said steel composition, in particular with regard to Al and Si, with the claimed annealing conditions (see the description of the application, page 6, lines 10-14) and claimed cooling conditions in order to improve flatness and abrasion

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resistance.

The subject matter of claims 1 and 10 can therefore be considered novel and inventive (PCT Article 33(2) and 33(3)).

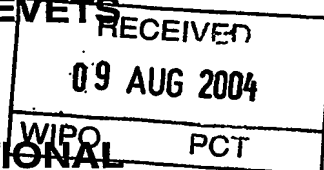
Claims 2-9 and 11-20 are dependent on claims 1 and 10, respectively, and therefore also meet the novelty and inventive step requirements.

**PCT**

**RAPPORT D'EXAMEN PRELIMINAIRE INTERNATIONAL**

(article 36 et règle 70 du PCT)

**10/535418**





Référence du dossier du déposant ou du mandataire	<b>POUR SUITE A DONNER</b> voir la notification de transmission du rapport d'examen préliminaire international (formulaire PCT/PEA/416)	
Demande internationale No. PCT/FR 03/03359	Date du dépôt international (jour/mois/année) 13.11.2003	Date de priorité (jour/mois/année) 19.11.2002
Classification internationale des brevets (CIB) ou à la fois classification nationale et CIB C21D1/19		
Déposant USINOR et al.		

1. Le présent rapport d'examen préliminaire international, établi par l'administration chargée de l'examen préliminaire international, est transmis au déposant conformément à l'article 36.
2. Ce RAPPORT comprend 4 feuilles, y compris la présente feuille de couverture.  
  
☐ Il est accompagné d'ANNEXES, c'est-à-dire de feuilles de la description, des revendications ou des dessins qui ont été modifiées et qui servent de base au présent rapport ou de feuilles contenant des rectifications faites auprès de l'administration chargée de l'examen préliminaire international (voir la règle 70.16 et l'instruction 607 des Instructions administratives du PCT).

Ces annexes comprennent feuilles.

3. Le présent rapport contient des indications et les pages correspondantes relatives aux points suivants :

- I ☒ Base de l'opinion
- II ☐ Priorité
- III ☐ Absence de formulation d'opinion quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle
- IV ☐ Absence d'unité de l'invention
- V ☒ Déclaration motivée selon la règle 66.2(a)(ii) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration
- VI ☐ Certains documents cités
- VII ☐ Irrégularités dans la demande internationale
- VIII ☐ Observations relatives à la demande internationale

Date de présentation de la demande d'examen préliminaire internationale  10.05.2004	Date d'achèvement du présent rapport  06.08.2004
Nom et adresse postale de l'administration chargée de l'examen préliminaire international   Office européen des brevets D-80298 Munich Tél. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Fonctionnaire autorisé  Boureau, J-L  N° de téléphone +49 89 2399-8454  

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PRÉLIMINAIRE INTERNATIONAL**

Demande internationale n°

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6. Observations complémentaires, le cas échéant :

**V. Déclaration motivée selon l'article 35(2) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration**

1. Déclaration

Nouveauté	Oui:	Revendications	1-20
	Non:	Revendications	
Activité inventive	Oui:	Revendications	1-20
	Non:	Revendications	
Possibilité d'application industrielle	Oui:	Revendications	1-20
	Non:	Revendications	

2. Citations et explications

**voir feuille séparée**

**Concernant le point V**

**Déclaration motivée quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration**

Il est fait référence aux documents suivants :

D1=US 5393358 A

D2=EP 0527276 A

Afin de produire des pièces en acier, par exemples des tôles de 2 à 150 mm d'épaisseur, résistant à l'abrasion et aptes au soudage et au pliage, l'invention propose un procédé mettant en oeuvre un acier de composition définie où la pièce formée à chaud ou réchauffée est soumise à un traitement thermique de trempe dans des conditions de température et de vitesse de refroidissement particulières. La pièce obtenue présente une structure martensitique avec précipités de carbure, de titane notamment.

Ce type de procédé et de pièces résistant à l'abrasion est connu des documents D1 et D2.

Cependant, aucun de ces documents ne décrit ni ne suggère de manière évidente la combinaison de la composition d'acier, notamment en ce qui concerne les conditions sur Al et Si, de la condition de trempabilité (voir la description de la demande page 6, lignes 10-14) et des conditions de refroidissement revendiquées, de manière à améliorer la planéité et l'abrasion.

L'objet des revendications 1 et 10 peut donc être considéré comme nouveau et inventif (Article 33(2)(3) PCT).

Les revendications 2 à 9 et 11 à 20 dépendent des revendications 1 et 10 respectivement et remplissent donc également les conditions de nouveauté et activité inventive.